



81 Grove Road, Sutton - Biodiversity Enhancement Management Plan

**Banstead Property Services
Ltd**

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Summary

Ecus Ltd was commissioned by Banstead Property Services Ltd in January 2023 to undertake a Biodiversity Enhancement and Management Plan (BEMP) at 81 Grove Road, Sutton, SM1 2DB, National Grid Reference (NGR) TQ 25333 63691 (hereafter referred to as “the Site”).

The BEMP assessment was required to support a planning application to Sutton Borough Council to discharge planning conditions 14 and 15. This includes a BNG pre and post development assessment with soft landscaping and ongoing management for a 10% net gain in biodiversity on-site.

From the UK Habitats Classification (UKHabs) survey, the baseline habitats within the survey area comprised:

- u1b5 - Urban – Buildings;
- u1d - Urban – Suburban/ mosaic of developed/ natural surface;
- g4 - modified grassland;
- r1a – Eutrophic standing water;
- Scattered trees (11)
- Scattered scrub (10)

Full botanical species lists are provided in **Appendix 5**. A description of the habitats and their respective condition assessment is provided in **Section 4.2**.

During the survey, the Site was assessed as having potential to be used by amphibians, bats and nesting birds.

Biodiversity Net Gain Calculation

It has been calculated the Site has baseline habitats that have produced a biodiversity value of **0.4072 Habitat Units (HU)** based on an area of approximately 1053 m². A map of the baseline habitats is provided in **Figure 1**.

Post-development the Site will comprise a new building with associated landscaping (u1d and u1b5), approximately 612 m² of modified grassland in the form of a garden, an extension of the existing pond, planting of 3x new fruit trees and the a green roof on top of the bike shed. In addition, the trees at the bottom of the garden will be enhanced through management and improvements of the surrounding habitat.

Post-development habitats (creation and enhancement) have been calculated with a biodiversity value of **0.5343 HU**. The proposals as illustrated by habitat types in **Figure 2**, will result in a net gain of **0.1271 HU** and a percentage change in HU of **31.22%**.

Results and Enhancement Opportunities

Habitat enhancement options and ongoing management to achieve net gain are considered within **Section 5** of the report. These include the installation of a green roof, creation/expansion of the existing pond, tree

planting, soft landscaping, creation of hibernaculum and installation of a bat box, hedgehog hole and sparrow terrace.

1. Introduction

1.1 Project Background

- 1.1.1 Ecus Ltd was commissioned by Banstead Property Services Ltd in January 2023 to compose a Biodiversity Enhancement and Management Plan (BEMP) for the residential development at 81 Grove Road, Sutton, SM1 2DB, National Grid Reference (NGR) TQ 25333 63691 (hereafter referred to as “the Site”).
- 1.1.2 The development project involves the erection of a detached two storey building with accommodation at roof level comprising seven self-contained residential units and provision of car parking bays and cycle and refuse stores to the front.

1.2 Purpose of the BEMP

- 1.2.1 The BEMP assessment was required to support a planning application to Sutton Borough Council to discharge planning conditions 14 and 15, as stated within the project brief provided by Banstead Property Management Ltd in January 2023. These conditions are displayed in **Appendix 1**. This process comprised an initial BNG survey that was used to inform a No Net Loss and Net Gain evaluation, working to London Borough of Sutton's (LBS) methodology and in general accordance with BS42020:2013 to provide a Net Gain on site. This management plan details biodiversity enhancement prescriptions that should be implemented during the construction process and 30 years post-development to achieve a minimum 10% net gain.
- 1.2.2 The purpose of the BNG assessment was to carry out a habitat survey using UK Habitat Classification (UKHabs) methodology to gather necessary data on baseline conditions and determine the change in biodiversity value. In addition, the Site was surveyed for any signs of protected species and assessed for its potential to support protected species. As construction is underway, part of the BNG assessment was undertaken using satellite imagery and drawings provided by the client.

2. Legislation & Planning Policy

- 2.1.1 During the BNG assessment, the surveyors were present to identify any ecological constraints associated with the proposed works, including habitats and species protected by legislation, namely:
- The Wildlife & Countryside Act 1981 (as amended) (“the WCA 1981”);
 - The Conservation of Habitats and Species (Amendment) (EU Exit) Regulations 2019 (“the Habitats Regulations”); and
 - The Natural Environment and Rural Communities Act 2006 (“the NERC Act”).
- 2.1.2 Further details for species protected by the above legislation are provided in **Appendix 3** and can also be found at <http://www.legislation.gov.uk>.
- 2.1.3 This BEMP has been produced to meet the requirements of the London Borough of Sutton’s ‘Biodiversity Strategy 2020 – 2025’ to ensure that plants, animals, and ecosystems are conserved, protected and enhanced and that progress is tracked, using measurable targets.
- 2.1.4 One of the most significant aspects of this Biodiversity Strategy is that it provides further information and guidance on the delivery of No Net Loss and Biodiversity Net Gain through planning applications.
- 2.1.5 Policy 26 of the Local Plan 2018-2031 states that: "The council will protect and enhance Sites of Importance for Nature Conservation, Green Corridors and biodiversity. Major new developments should result in no net loss in biodiversity value, as assessed against the DEFRA biodiversity offsetting metric, the Environment Bank Biodiversity Impact Calculator or any metric which the council subsequently adopts formally. New development should incorporate opportunities to enhance biodiversity, wherever possible."
- 2.1.6 The adopted ‘Building a Sustainable Sutton: Technical Guidance Note for Developers’ was used to inform the biodiversity enhancement strategies detailed within this document.

3. Methodology

3.1 UK Habitat Classification (UKHabs) Survey

- 3.1.1 A baseline habitat survey was completed by experienced Assistant Ecologist Isabel Soane BSc (Hons) MSc in accordance with industry guidelines (UKHab Working Group, 2018) on 31st January 2023.
- 3.1.2 The habitats and vegetation types present were recorded on a field map. Notable, rare or scarce plant species were highlighted, where present. The UKHabs survey method aims to characterise habitats and communities present within the Site and is not intended to provide a complete list of all plants occurring across the Site.
- 3.1.3 The habitats present within the Site were identified and classified according to UKHabs, which is used by the Biodiversity Metric 3.1 (BM3.1) (Natural England, 2022), which was present at the time of survey. As there are discrepancies between the habitat classifications in UKHabs and BM3.1, some habitat types are converted to better fit the metric. A species list was compiled for each habitat (see **Appendix 5**). The abundance of each plant species was recorded using the DAFOR method. This method is intended to provide an indication of the relative abundances of plant species within each habitat. The standardised terms are as follows:
- D – Dominant
 - A – Abundant
 - F – Frequent
 - O – Occasional
 - R – Rare
- 3.1.4 The condition of each habitat type was assessed and categorised as either good, fairly good, moderate, fairly poor or poor. The assessment was made using the criteria within BM3.1 Technical Supplement (Natural England, 2022b), with specific assessment criteria for each broad habitat type. Site photos are provided in **Appendix 2**.

3.2 Biodiversity Net Gain Assessment

- 3.2.1 Biodiversity metric calculations provide a numerical score for the current baseline value (Habitat Units, Hedgerow Units and / or River (watercourse) Units) of the habitats on Site for the potential impact of any proposed works to be quantitatively assessed.
- 3.2.2 The Biodiversity Net Gain Assessment (BNGA) used the biometric tool current at the time of the survey, the 'Biodiversity Metric 3.1 Auditing and accounting for biodiversity - Calculation Tool' (BM3.1) distributed by Natural England.

- 3.2.3 BM3.1 uses a classification system based mainly on the UK Habitat Classification (UKHabs) System. Where applicable, habitats were subject to a condition assessment in accord with the Condition Assessment Sheets included within the 'Biodiversity Metric 3.1: Auditing and accounting for biodiversity – Technical Supplement 1a (2022)' produced by Defra.
- 3.2.4 Using the BM3.1 tool, habitat values are calculated based on whether they occur commonly or whether they are rare, their area (ha) (or length (km) for linear features such as hedgerows), condition and importance within the local area, usually identified from local relevant planning policies or documents. This gives individual pre-development Habitat Units (HU), Hedgerow Units (HeU) and Watercourse Units (WaU).
- 3.2.5 The Small Sites Metric was used as this is for a residential development where the number of dwellings to be provided is fewer than 10 residential units (9 or fewer) on a site area less than 1ha. This was in beta at the time of the report being written. Secondary codes were utilised, focusing on habitat features and land use.
- 3.2.6 Habitat type has been digitised using QGIS version 3.28, 2022, **see Figure 1 & 2**.
- 3.2.7 The results of the BNG assessment are detailed within **Section 4**.

3.3 Protected and/or Otherwise Notable Species

- 3.3.1 Any evidence of protected species or groups encountered during the survey was recorded. This included observations of field signs and an assessment of the suitability of the habitats present to support protected species. For full details of legislation relating to all habitats and species discussed within this report see **Appendix 3** and visit <http://www.legislation.gov.uk>.
- 3.3.2 During the survey, any evidence of invasive species listed on Schedule 9 of the Wildlife and Countryside Act 1981 (as amended) was recorded.

3.4 Limitations

- 3.4.1 The Site was under construction where the old house had been demolished and the front garden/drive area had been poached to bare ground. This meant a full species list could not be gathered in the front garden. The area of construction was therefore assessed using satellite imagery and comprised primarily of the developed area and hardstanding in which the previous house stood. As developed land has biodiversity value of 0 under the BNG Metric 3.1, it is unlikely the BNG calculation has been affected.

4. Results

4.1 Site Description

4.1.1 The Site was situated in the urban, residential town of Cheam in the Borough of Sutton. It was bordered by a railway line to the south and Grove Road to the north, with houses either side. The nearest significant semi-natural areas are Cheam Park situated 1 km west and arable fields located 1 km to the south.

4.2 Baseline Habitats

4.2.1 **Figure 1** illustrates the habitats recorded on Site at the time of the survey. All habitats are described below, and species lists for each habitat are provided in **Appendix 5**.

Modified grassland (g4) with scattered scrub and trees (10,11)

4.2.2 The rear of the Site was dominated by a large garden which contained modified grassland (approximately 657 m²) with small patches of scattered scrub and trees, secondary codes 10 and 11 respectively. There was also a small area of grass in the front garden (approximately 68 m²). Yorkshire fog *Holcus lanatus* and false oat grass *Arrhenatherum elatius* were dominant within this habitat. Other abundant species included dovesfoot cranesbill *Geranium molle*, hedge bedstraw *Galium album*, ground ivy *Glechoma hederacea*, ivy *Hedera helix*, and common nettle *Urtica dioica*. Other sporadic species included snowdrops *Galatnus nivalis* and teasel *Dipsacus fullonum*. There were a number of ornamental garden plants recorded including cyclamen and crocus. There were several trees on the Site, including fruit trees (*Prunus sp.*) and a line of trees parallel to the railway, although as this was approximately 17 m, it was not long enough to qualify a linear feature in UKHabs. *Buddleia davidii* was noted which although is not a Schedule 9 Invasive Non-Native Species (INNS), it is an invasive species to the UK.

4.2.3 This habitat fits the Vegetated Garden description in the BNG Metric and so was converted as such.

4.2.4 Vegetated Garden cannot be greater than Poor condition within the Small Sites Metric and the habitat was reflective of this trait, failing most of the grassland condition criteria. The habitat was found to lack the composition of nine priority grassland habitat and associated indicator species per metre squared. In addition, the sward height was not varied which means it was unlikely to support a high range of invertebrates and there was a bare ground coverage of over 10%. Positive grassland characteristics were the presence of shrub and scrub species, including bramble *Rubus fruticosus*, having less than 20% cover and the absence of INNS.

4.2.5 Scattered trees were converted into the Urban trees under the BNG Metric. The Small Sites Metric does not require a condition assessment however it is noted that there is an option to improve the

condition of urban trees in the enhancement section. As such the trees were assessed as being in poor condition. This is due to their non-continuous canopy, that the trees are not mature and the lack of flora growing directly beneath the trees.

4.2.6 Modified grassland habitat is not a priority habitat type under the UK Biodiversity Action Plan (UK BAP).

4.2.7 Furthermore, modified grassland habitat is not recorded under Sutton Biodiversity Strategy (SBS) Priority Habitat list.

Urban – Buildings (u1b5)

4.2.8 This habitat consisted of a large house with an area of 181 m².

4.2.9 The Urban – Buildings contained no vegetation and offered little ecological value.

4.2.10 Urban – Buildings is a man-made habitat that is not a NERC Act 2006 Section 41 priority habitat nor is it listed within the SBS as a habitat of importance. The habitat covers a large area, but with negligible ecological value.

Urban – Suburban/ mosaic of developed/ natural surface (u1d)

4.2.11 This habitat was an area of 220 m² which consisted of planters and paving at the front of the house, which surrounded a patch of modified grassland. To fit the Small Sites Metric, the areas of vegetated surface were converted into *Introduced shrub* and unvegetated surface into *Artificial unvegetated, unsealed surface*.

4.2.12 The suburban mosaic of developed natural surface is land that contains some vegetation and offers a low ecological value.

4.2.13 Urban – suburban mosaic of developed natural surface is a man-made habitat that is not a NERC Act 2006 Section 41 priority habitat nor is it listed within the SBS as a habitat of importance.

Urban – Other developed land (u1b6)

4.2.14 This habitat consisted of a 60 m² concreted patio at the back of the house.

4.2.15 The developed land contained no vegetation and offered no ecological value.

4.2.16 Urban – Other developed land is a man-made habitat that is not a NERC Act 2006 Section 41 priority habitat nor is it listed within the SBS as a habitat of importance. The habitat covered a large area but with negligible ecological value.

Eutrophic standing water, Ponds (Priority Habitat) (r1a)

- 4.2.17 One pond was present within the Site which was known to house koi carp prior to the Site development.
- 4.2.18 The pond was 12 m² and had 90% algae cover with few other plants growing. However, it had a low turbidity and an absence of non-native species. It may have had a working pumping system at some point, but if there was a pump it had not been active since the Site was acquired. The pond was therefore assessed as being in **Moderate** condition.
- 4.2.19 Due to misalignments between UKHabs and the BNG Metric 3.1, it was mapped as a Pond (Priority Habitat) using UKHabs, which is the only option for garden ponds and has been translated to an Ornamental Pond in the BNG metric.
- 4.2.20 Ponds are listed on the UK BAP and under SBS Priority Habitat list. There is no differentiation between priority and ornamental ponds in UK BAP. Therefore, this habitat is considered to have high strategic significance.

4.3 Species

Amphibians

- 4.3.1 The grassland with scattered scrub habitat offered a low level of foraging and sheltering opportunities for amphibians.
- 4.3.2 The Site may support common amphibian species due to the presence of a pond and suitable terrestrial habitat. However as there were koi carp in the pond until recently and therefore amphibians may not have populated the pond.
- 4.3.3 There could also be opportunity for dispersing amphibians using the railway corridor to enter the garden. However, due to the presence of significant quantities of similar or higher quality habitat in the wider landscape, it is considered that the importance of this habitat was at the Site level only.

Badger

- 4.3.4 No evidence of badger activity including sett entrances, latrines or foraging indicators were identified on or adjacent to the Site. There were mammal paths however due to the nature of the Site being very urbanised and having spoken to those onsite about their personal sightings, the mammal paths were very likely to be fox *Vulpes vulpes*.
- 4.3.5 The nature of the Site being an urban garden and therefore a small area of high disturbance and with no sett building potential means this Site was assessed as unsuitable for badger.

Bats

Roosting bats

- 4.3.6 No suitable mature trees were present on Site to provide potential roost features suitable for bats. It is unknown whether the original building was suitable for bats.

Foraging and commuting bats

- 4.3.7 The Site had a line of trees which back onto a railway. Many of the gardens on Grove Road also had trees, which created a green corridor along the railway. This was a linear feature that bats may utilise for foraging and commuting. Due to the presence of significant quantities of similar or higher quality habitat in the wider landscape, it is considered that the importance of this habitat was at the Site level only.

Birds

- 4.3.8 This Site was likely to support a common bird assemblage due to the modified grassland and scattered trees and scrub which provide foraging and nesting habitat. As such it is considered that the importance of this habitat was at the Site level only.
- 4.3.9 During the survey a blackbird *Turdus merula* and dunnock *Prunella modularis* were seen.

Invertebrates

- 4.3.10 The Site had habitats with potential to support common invertebrate species in the form of the flowering plants which were observed in the modified grassland and a small dead wood log at the back of the garden. Additionally, although the grassland sward was not variable, the scattered scrub and trees provided variation in height and therefore provided some edge habitat.
- 4.3.11 There is significant quantity of similar quality habitat in the wider landscape in the form of residential vegetated gardens and so it is considered that the importance of this habitat was at the Site level only.

Reptiles

- 4.3.12 The grassland with scattered scrub and shrubs offered a low suitability for foraging and sheltering reptiles.
- 4.3.13 There could be opportunity for dispersing reptiles using the railway corridor to enter the garden. However, due to the presence of significant quantities of similar or higher quality habitat in the wider landscape, it is considered that the importance of this habitat was at the Site level only.

Invasive non-native Species

- 4.3.14 No Schedule 9 INNS were identified on-Site however the invasive species *Buddleia davidii* was noted.

4.4 Recommendations Regarding Protected/Notable Species

- 4.4.1 Due to the presence of suitable habitats for protected and/or notable species on Site, it is

recommended that general Ecological Best Practice Measures are followed during the construction phase, as detailed in **Appendix 4**.

4.5 Baseline Biodiversity Value

- 4.5.1 Baseline habitats within the Survey Area comprised g4 – modified grassland, u1b5 - Urban - Buildings, u1d - Urban – Suburban/ mosaic of developed/ natural surface and r1a – Eutrophic standing water - Ponds (Priority Habitat), scattered trees and scattered scrub.
- 4.5.2 The total area of the Site has been calculated at 1053 m². The habitat type, condition, areas and Habitat Units (HU) are provided within **Table 1** below.

Table 1. Baseline area-based habitats, condition and Habitat Units

UKHabs Habitat Type	BNG Metric Habitat	Condition	Area (m ²)	Habitat Units (HU)
g4 – Modified grassland (rear garden)	Vegetated garden	Poor	654	0.2616
g4 – Modified grassland (front garden)	Vegetated garden	Poor	68	0.0271
u1b5 - Urban - Building	Developed land; sealed surface	–	181	0.0000
u1b6 - Urban – Other developed land	Developed land; sealed surface	-	60	0.0000
u1d - Urban – Suburban/ mosaic of developed/ natural surface	Artificial unvegetated, unsealed surface	-	70	0.0000
u1d - Urban – Suburban/ mosaic of developed/ natural surface	Introduced Shrub	-	6	0.0012
u1d - Urban – Suburban/ mosaic of developed/ natural surface	Introduced Shrub	Poor	2	0.0004

UKHabs Habitat Type	BNG Metric Habitat	Condition	Area (m ²)	Habitat Units (HU)
r1a 19 – Eutrophic standing water - Ponds (Priority Habitat)	Ornamental lake or pond	Moderate	12	0.0047
Scattered trees	Urban trees	Poor	N/A	0.1121
Total Habitat Units (HU)				0.4072

4.5.3 The baseline habitats of the Survey Area are mapped in **Figure 1** according to the UK Habitat Classification system used by the BM 3.1.

4.6 Post-development Biodiversity Value

4.6.1 Post-development plans are based on the landscape drawings provided by Joanne Winn Garden Design (see **Appendix 7-10**). The small fruit trees in poor condition are set to be removed and replaced by the planting of new standard sized trees, while the trees at the back of the garden will be enhanced through management in order to achieve BNG and to satisfy Condition 14.

4.6.2 It was not possible to include a green roof on the house due to the pitched roof which was identified during the Site survey and in the SUDS documentation “C2755-R1-REV-A_24_05_22”. However it is recommended that a green roof is installed onto the bike sheds to satisfy condition 15.

4.6.3 It was determined that the layout of the development did not provide sufficient space for a rain garden to be installed without causing significant obstruction to the access paths located to the side of the building. Furthermore, a rain garden must not be installed closer than 5 m to a building, without risking damage to foundations by infiltrating water. As the only other potential locations were located within areas designated as private gardens, it was deemed not feasible to feed these planters using run-off from the guttering without causing an obstruction or significant re-design of the site layout. Additionally, it would not be possible to ensure these features were maintained in an appropriate condition by the resident. As an alternative, the pond located at the back of the garden will be improved and expanded to provide increased resources for wildlife that rely on aquatic habitats.

Post-intervention calculations

4.6.4 The habitat type, condition, approximate area and Habitat Units (HU) are provided within **Table 2** below. Retained post-intervention habitats have produced a biodiversity value of 0.3486 HU and habitat enhancements have produced a value of 0.1299. Created post-intervention habitats (excluding trees) have produced a biodiversity value of 0.0558 HU.

Table 2. Post-intervention area-based habitats, condition and Habitat Units

UKHabs Habitat Type	BNG Metric Habitat	Condition	Area (m ²)	Habitat Units (HU)
g4 – Modified grassland (rear garden)	Modified grassland	Poor	612	0.24
u1d - Urban – Suburban/ mosaic of developed/ natural surface	Other green roof	Moderate	6	0.0021
u1d - Urban – Suburban/ mosaic of developed/ natural surface	Vegetated garden (planters and shrubs)	Moderate	40	0.0077
u1b5 - Urban - Building	Developed land; sealed surface	–	213	0.0000
u1b6 - Urban – Other developed land	Developed land; sealed surface	-	164	0.0000
r1a 19 – Eutrophic standing water - Ponds (Priority Habitat) - retained	Ornamental lake or pond	Moderate	6	0.0024
r1a 19 – Eutrophic standing water - Ponds (Priority Habitat) – created	Ornamental lake or pond	Moderate	12	0.0086
Scattered trees - enhanced	Urban trees	Moderate	127	0.1299
Scattered trees – created	Urban trees	Moderate	122	0.0373
Total Habitat Units (HU)				0.5343

4.7 Summary of Overall Biodiversity Change

4.7.1 **Table 3** summarises the changes in HU generated for the broad habitat categories within the baseline and post-development on Site. The headline results are also provided in **Appendix 6**.

4.7.2 The proposed development plans will result in a net gain of 0.1271 in HU, which is a +31.22% change in HU.

Table 3. Summary of Biodiversity Net Gain Calculation Results

	On-Site Baseline Units (including trees)	On-Site Proposed Units (including trees)	Change in Units	% Change in Units
Habitat Units (HU)	0.4072	0.5343	+0.1281	+31.22%

5. Post Management Habitat Objectives and Actions

- 5.1.1 This section describes the habitat management objectives for each habitat type. This includes enhanced and created habitats. Habitat types are separated based on the BM3.1 habitat types. Where condition criteria for each habitat type is provided this is supplied by the BM3.1 Technical Supplement (Panks et al., 2022).
- 5.1.2 This section also details appropriate management prescriptions and installation of biodiversity enhancements. The management prescriptions are summarised in **Table 7**.

5.2 Habitat Features to be Managed

- 5.2.1 Features identified at the Site to be retained, enhanced/created and subject to management, and monitoring under this BEMP are detailed below.

Eutrophic standing water – Pond

- 5.2.2 The pond on-Site is in moderate condition however it is at the lowest level of this category.
- 5.2.3 To improve the opportunities available to wildlife, the pond will be expanded to a size of 18m². The pond will be constructed using the following specification / methods:
- Excavate the footprint of the pond to a depth of 20 – 60 cm that varies across the pond, including shelved edges for planting. At least one side of the pond should have a long, shallow slope to allow easy access for wildlife.
 - Remove any sharp stones from the hole and line it with a ~5cm thick layer of sand. Sand is preferable because it is sterile and will not harbour any undesirable seeds or microbes, but you can also use old carpet, newspapers, or other recycled material.
 - Dig a trench around the edge of the pond for the overhanging pond liner to drop into.
 - Place a butyl liner (preferably double layer) into the hole and tuck the edges into the trench; weigh it down with large rocks and turf. Any extra excess liner may be cut off.
 - Alternatively, a pre-formed pond can be installed, however a ramp should be added on the outside and inside to provide access for wildlife. The following steps will still need to be followed.
 - Add sand and washed gravel to provide a substrate for planting.
 - Fill with water. Rainwater is preferable, which may be fed from the guttering.
 - Aquatic and marginal vegetation planting should incorporate a mixture of native species planted at densities of **2-3 plant plugs per m²**. A minimum buffer zone of **0.5 -1 m** should be planted up around the pond perimeter with margin species to provide shelter and filtration to the pond. Recommended species to be incorporated into the planting include yellow flag iris *Iris*

pseudacorus, native pondweed species (e.g. *Potamogeton crispus* and *P natans*), frogbit *Hydrocharis morsus-rana*, bogbean *Menyanthes trifoliata*, amphibious bistort *Persicaria amphibia*, flowering rush *Butomus umbellatus*, arrowhead *Sagittaria sagittaria*, water mint *Mentha aquatica*, water speedwell *Veronica anagallis-aquatica*, gypsywort *Lycopus europaeus* and meadowsweet *Filipendula ulmaria*.

- Pre-planted coir mats such as: <https://britishpondplants.co.uk/products/preplanted-coir-mats-ponds> may be used instead to allow the aquatic marginal vegetation to quickly establish within a secure growing medium. However, planting should encompass no more than 80% of the pond perimeter, with 50% to 100% of the mats at or below water level.
- 5.2.4 To maintain the moderate condition of the pond, it should be cleared of algae and planted with oxygenating plants to attract wildlife. Any pumps should be left switched off to allow the pond to fluctuate in depth.
- 5.2.5 It is not expected that this habitat will reach good condition as it would have to meet 9 out of the 9 condition assessment criteria. The pond cannot meet criteria number 2 (**Table 4**) as the Vegetated Garden surrounding the pond is of poor distinctiveness.
- 5.2.6 Ongoing management of the pond will include periodic removal of algae and duckweed should it arise. Monitoring of the planted areas should be frequent in the first five years to determine efficacy of establishment and remediation (including additional planting) may be required. Excessive shading of ponds should be prevented by removing / coppicing encroaching scrub and trees in proximity around 50 % of the pond.

Table 4: Condition Assessment Criteria for Ponds (BM 3.1)

Condition Assessment Criteria	
CORE CRITERIA - applicable to all ponds (woodland¹ and non-woodland):	
1	The pond is of good water quality, with clear water (low turbidity) indicating no obvious signs of pollution. Turbidity is acceptable if the pond is grazed by livestock.
2	There is semi-natural habitat (i.e. moderate distinctiveness or above) for at least 10 m from the pond edge.
3	Less than 10% of the pond is covered with duckweed or filamentous algae.
4	The pond is not artificially connected to other waterbodies, either via streams, ditches or artificial pipework.
5	Pond water levels should be able to fluctuate naturally throughout the year. No obvious dams, pumps or pipework.
6	There is an absence of non-native plant and animal species ² .
7	The pond is not artificially stocked with fish. If the pond naturally contains fish, it is a native fish assemblage at low densities.
ADDITIONAL CRITERIA - only applicable to non-woodland ponds:	
8	In non-woodland ponds, plants, be they emergent, submerged or floating (excluding duckweeds) ³ , should cover at least 50% of the pond area that is less than 3 m deep.
9	The surface of non-woodland ponds is no more than 50% shaded by woody bankside species.

If 10 criteria assessed (non-woodland ponds):	
Passes 9 of 9 criteria	Good (3)
Passes 6, 7 or 8 of 9	Moderate (2)
Passes 0, 1, 2, 3, 4 or 5 of 9 criteria	Poor (1)

Urban – green roof

5.2.7 The bike sheds will be fitted with green roof turf, covering an area of approximately 6 m². An example of a suitable turf is: <https://www.dekogardensupplies.co.uk/mobiroof-eco-green-roof-500mm-x-500mm-p-MRECO/>

5.2.8 The green roof will be installed using the following specification / methods, provided by Deko Garden Supplies:

Step 1: Assess Roof Pitch and Load Capacity

5.2.9 First, check with a structural engineer or building contractor to see if your roof can handle the weight. MobiRoof ECO modular green roof is suitable for flat roofs or slightly sloped roofs up to 10° pitch. Each cassette weighs approx. 38 kg/m² when dry and 58 kg/m² when completely saturated.

The water capacity of the green roof system is 20 L/m². To hold more rainwater, add a supplemental buffer layer under the trays to increase water capacity to 40L/m².

Step 2: Protect your roof

5.2.10 Check your roof's material carefully. If your roofing lacks an integrated root barrier, apply a separate root-resistant permeable membrane before installing cassettes.

Step 3: Install edge gravel strips

5.2.11 Install a 300-500mm wide gravel strip (minimum of 16/32 stone) around the roof perimeter and penetrations like downpipes. Due to the size of the green roof, the necessity to add additional parapet walls will not be necessary (as otherwise advised by the supplier).

Step 4: Place the green roof modular trays

5.2.12 For systems like MobiRoof ECO, modular vegetation trays interlock for simplified installation. For easy mobility across the installed sections, staggering the tray joints offsets seams and working outward from roof access points. You will need 4 cassettes per 1m² roof space.

Step 5: Maintain your green roof

5.2.13 The final step is routine maintenance. To sustain a healthy green roof, you need to perform maintenance approximately once or twice per year. The maintenance work includes the following tasks:

- Weeding and clearing any unwanted seedlings from the trays.
- Irrigating only during periods of extreme drought to maintain optimal plant balance.
- Pruning strategically in September after bees have finished their life cycle while leaving some cuttings to allow re-growth and habitat.
- Fertilising once or twice annually in spring and autumn to stimulate soil nutrients and plant health.
- Phased pruning of sections over a span of weeks to minimize disruption to resident animal species.

Urban – Vegetated Garden

5.2.14 The Urban – Vegetated Garden habitat does not need to be condition assessed as the BM3.1 Technical Supplement (Pank et al., 2022) states that this habitat can only achieve a 'Poor' condition. Therefore, for the purposes of the BEMP condition criteria has not been provided. This habitat is expected to achieve the 'Poor' condition status within one year.

5.2.15 The planting plan, produced by Joanne Winn Garden Design includes a mixture of native and non-native planting to providing good aesthetic value whilst also providing resources for pollinators.

5.2.16 See **Appendix 7** for the Landscape Layout Plan, **Appendix 8** for the Planting Plan, **Appendix 9** for the Plant schedule and **Appendix 10** for the plant maintenance schedule.

Urban – Developed Land; Sealed Surface

5.2.17 The Urban – Developed land; sealed surface habitat does not contribute to Habitat Units and so doesn't need to be managed for the purposes of biodiversity net gain and therefore will not be considered further in the BEMP.

Urban – Introduced Shrub

5.2.18 The Urban – Introduced shrub habitat does not need to be condition assessed as the BM3.1 Technical Supplement (Pank et al., 2022) states that this habitat can only achieve a 'Poor' condition. Therefore for the purposes of the BEMP this habitat does not need to be condition assessed and condition criteria has not been provided.

5.2.19 This habitat is expected to achieve the 'Poor' condition status within one year.

5.2.20 The location of the introduced shrub which is due to be planted, varies between the SUDS and Site layout plan. The client stated in conversation that the areas of shrub at the front of the house should be kept to the sides to allow for car turning space.

Urban Trees

5.2.21 The trees at the end of the garden can be enhanced from poor condition to moderate condition (**Table 6**). The BM3.1 Technical Supplement states that urban trees will take 16 years to reach this goal.

5.2.22 Micro-habitats and tree maturity will increase over time naturally which reflects the 16 years they are expected to take to achieve good condition. The trees are therefore expected to achieve 'Moderate' condition status within one year. Consideration should also be given to the neighbouring railway corridor within management.

5.2.23 The existing trees should be pruned selectively to maintain good health.

5.2.24 Three additional standard trees will be planted adjacent to the existing trees at the end of the garden. It is recommended that native fruit trees such as apple (*Malus domestica*) pear (*Pyrus communis*) and cherry (*Prunus cerasus*) should be used as they are slow growing and less likely to cause issues with the adjacent railway. Fruit trees also provide a valuable source of nectar to pollinators and may be utilised by residents.

5.2.25 Trees should be monitored for signs of disease. Yew *Taxus sp.* species can develop a fungus which turns the foliage an orange-brown colour (Forest Research). Trees should be inspected annually as catching a disease early could save the life of the tree.

5.2.26 Where trees fail, new same species sapling or standard trees should be planted in the place of the

failed tree with the aim of restoring/maintaining a continuous canopy.

Table 6: Condition Assessment Criteria for Urban Trees (BM 3.1)

Condition Sheet: URBAN TREES Habitat Type		
Linear Blocks: Lines of trees along streets, highways, railways and canals whose canopies may or may not overlap continuously.		
Condition Assessment Criteria		Condition Achieved (Y/N)
1	The tree is a native species (or more than 70% within the block are native species).	
2	The tree canopy is predominantly continuous, with gaps in canopy cover making up <10% of total area and no individual gap being >5 m wide (individual trees automatically pass this criterion).	
3	The tree is mature ² or veteran ³ (or more than 50% within the block are mature ² or veteran ³).	
4	There is little or no evidence of an adverse impact on tree health by anthropogenic activities such as vandalism or herbicide use. There is no current regular pruning regime so the trees retain >75% of expected canopy for their age range and height.	
5	Micro-habitats for birds, mammals and insects are present e.g. presence of deadwood, cavities, ivy or loose bark	
6	More than 20% of the tree canopy area is oversailing vegetation beneath.	
		Number of criteria passed
Condition Assessment Result	Condition Assessment Score	Score Achieved ×/✓
Passes 5 or 6 of 6 criteria	Good (3)	
Passes 3 or 4 of 6 criteria	Moderate (2)	
Passes 0, 1 or 2 of 6 criteria	Poor (1)	

5.3 Biodiversity Enhancements

In order to satisfy condition 15, the following features should be incorporated into the landscaping of the Site:

1. Hedgehog holes to increase site connectivity.
2. Hibernacula/deadwood pile.
3. House sparrow terraces.
4. Starling boxes.
5. Bat boxes.

5.3.1 **Figure 2** displays the possible locations which features could be placed. Habitat boxes could be erected around the same suggested location, for example two adjacent sparrow terraces on a wall.

Hedgehog Hole

5.3.2 The hedgehog hole should be made in the fence at the bottom of the garden where they are least likely to be disturbed and the trees provide some protection. It is understood the fence on the western side belongs to the property owners and the map on **Figure 2** reflects as such.

5.3.3 The size recommendation is 13 x 13cm (5 x 5") for hedgehog holes in walls or fences (Hedgehog Street). It is also advised the hole is sandpapered to remove rough edges.

5.3.4 The hedgehog hole should be checked annually for blockages.

Hibernacula/Deadwood pile

5.3.5 The log pile should be created using wood from the small trees. This would provide shelter and foraging opportunities for invertebrates such as stag beetle *Lucanus cervus* and small mammals and contribute to a gain in biodiversity at the Site.

5.3.6 This should be erected near the pond as it would encourage amphibians to utilise the feature. It would also benefit invertebrate species that utilise both dead wood and aquatic habitats.

5.3.7 Due to the size of the Site, it is thought log piles would be sufficient hibernacula for both reptiles, amphibians and other wildlife species.

5.3.8 There is no management directly associated with this feature however it should be monitored every year to ensure it is maintained to a suitable standard for the use of reptiles and amphibians.

House sparrow terraces

5.3.9 Sutton Biodiversity Strategy states there should be 1 multi-chamber 'terrace' box per dwelling. Suggested locations are displayed on **Figure 2**.

5.3.10 House sparrows nest communally in gardens and as such the terrace could be erected on the side of the house. Some models are too heavy to be erected on a fence.

5.3.11 A model similar to the 1SP Schwegler Sparrow Terrace would be ideal (<https://www.nhbs.com/1sp-schwegler-sparrow-terrace>).

5.3.12 The terrace should be erected between 1.5m and 5.5m above ground. Direct sunlight should be avoided and as the garden is south facing, if erected on the house it should be down the east/west side of the building or the front of the building facing north.

5.3.13 The terrace can be cleared of nesting material in winter each year as this will encourage the birds to nest again.

Starling boxes

5.3.14 Sutton Biodiversity Strategy states there should be two boxes per small development. Suggested locations are displayed on **Figure 2**.

5.3.15 The following model or similar would be ideal: <https://www.nhbs.com/woodpeckerstarling-nest-box>

5.3.16 The terrace should be erected between 3 to 4 m above ground so starlings can take off easily. Direct sunlight should be avoided and as the garden is south facing, if erected on the house it should be down the east/west side of the building or the front of the building facing north.

5.3.17 The terrace can be cleared of nesting material in winter each year as this will encourage the birds to nest again.

Bat boxes

5.3.18 Sutton Biodiversity Strategy states that two bat boxes should be erected per dwelling.

5.3.19 It is recommended to use a box that is or similar to Beaumaris Woodstone Bat Box or Vivara Pro Woodstone. (<https://www.nhbs.com/beaumaris-woodstone-bat-box>; <https://www.nhbs.com/vivara-pro-woodstone-bat-box>).

5.3.20 According to the Bat Conservation Trust, these should be installed:

- at least 4 m high to avoid predation including from cats.
- Away from artificial light sources.
- Sheltered from strong winds and exposed to the sun for part of the day.
- In a south, south-east or south-west direction.

5.3.21 It is thought that the trees by the railway are not suitable for bat boxes due to their low maturity and their location adjacent to the railway line. For safety reasons the boxes could not be easily installed to the southern side of the trees and the railway will likely cause some disturbance.

5.3.1 The bat boxes should therefore be erected on the southside of the house.

5.3.2 There is no management directly associated with this feature however it should be monitored via a visual assessment from the outside to check its ongoing suitability for bats. Once it has been installed, only a bat licenced ecologist can check inside the box as there is a danger of disturbing bats.

5.4 25 Year Management Plan

5.4.1 As per Sutton Borough Council planning policy with Policy 26 of the Sutton Local Plan 2018, five years of after care and 25 years of management will be required.

Table 7: Management Actions

Management Action	Timing of action	Frequency
<i>Habitat Enhancements</i>		
Erect bat box	N/A	First year
Check bat box	Anytime- must be performed visually from the outside as only a bat licensed ecologist can check inside	Annually
Erect bird box	October to March in preparation for	First year

Management Action	Timing of action	Frequency
	breeding season	
Clean bird box	October to March in preparation for breeding season	Annually from second year
Create hibernacula/deadwood pile	Any time - Create using dead wood from the back of the garden and fruit trees coming down.	First year
Create hedgehog hole	N/A	First year
Check hedgehog hole	Anytime- check the hole is not blocked.	Annually
<u><i>Pond</i></u>		
Expand existing pond and plant	Autumn, winter or early spring	First year
Remove algae and litter	During winter	Annually
Planting native species	During Spring	First year
<u><i>New tree and shrub monitoring</i></u>		
Water as necessary during hot, dry spells of weather	As and when necessary during hot, dry spells of weather	Annually
Top up mulching material. Maintain min 50 mm depth.	Check in spring and action if required	Annually
Check tree guards and stakes; replace if required. Remove if no longer needed.	Check once in spring/summer and once in autumn/winter as well as after periods of high winds replace as and when necessary	First year to year five
Check and replace any failed planting	Check in late spring/early summer, replace as and when necessary	Annually
Remove mesh tree guards	During winter	First year to year five
<u><i>Established Trees</i></u>		

Management Action	Timing of action	Frequency
Water during drought periods	As and when necessary during hot, dry spells of weather	When required
Selective pruning	November to March	Annually
Monitor for signs of disease	Anytime – diseases can be easier to spot in winter as leaves are not obscuring the tree, however the trees to be enhanced are primarily coniferous.	Annually
<u>Vegetated garden / Planters</u>		
See Appendix 7 for the Landscape Layout Plan, Appendix 8 for the Planting Plan, Appendix 9 for the Plant schedule and Appendix 10 for the plant maintenance schedule.		
Green roof		
Irrigate during periods of extreme drought to maintain optimal plant balance.	Summer	Annually
Pruning strategically after bees have finished their life cycle while leaving some cuttings to allow re-growth.	September	Annually
Apply fertiliser to stimulate soil nutrients and plant health.	Spring and Autumn	Twice annually
Phased pruning of sections	Continual	Monthly / during routine maintenance

5.5 Monitoring

5.5.1 This Site should be subject to five years of monitoring by a suitably qualified ecologist and / or grounds maintenance operative. Monitoring of the Site allows for the management to be assessed to see how the management actions are affecting the Site and whether it is successful. Monitoring will help to ensure the proposed habitats deliver the predicted Habitat Units and ensure that an

overall 10% Net Gain is achieved in respect of the consented development.

- 5.5.2 It is recommended that monitoring takes place annually in Years 1 - 5 and then every 5 years until Year 30, or in accordance with Sutton Council's requirements.

6. References










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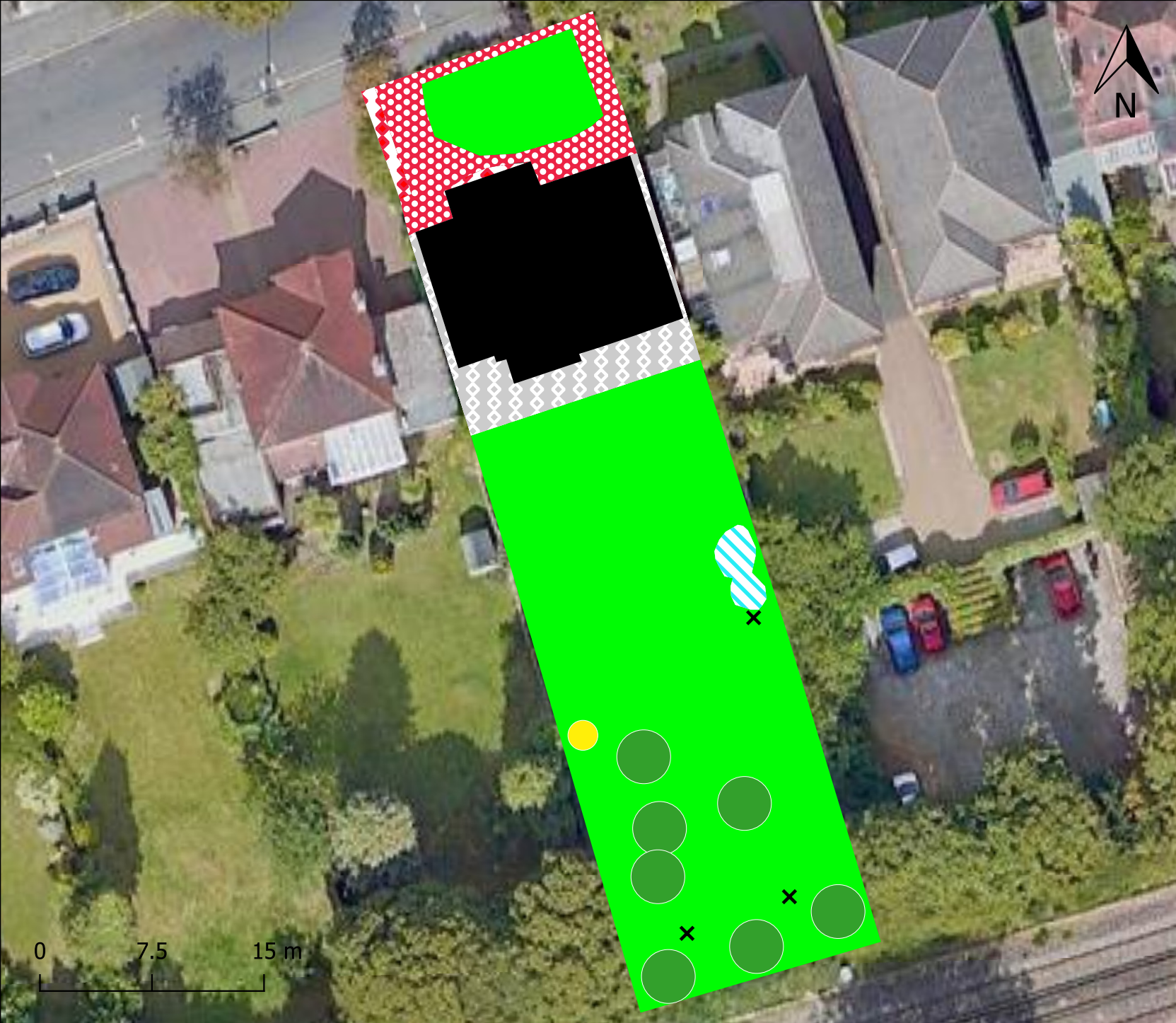
Available at <https://ecountability.co.uk/ukhabworkinggroup-ukhab>.

Figure 1. Baseline Habitat Map



Legend

-  Non-Native Shrubs
-  Scattered Scrub
-  Scattered Trees
-  g4 - modified grassland
-  u1b5 - buildings
-  u1b6 - other developed land
-  u1c - artificial unvegetated unsealed surface
-  u1d - suburban mosaic of developed/natural surface
-  r1a - eutrophic standing waters



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81 Grove Road, Cheam
Biodiversity Enhancement
Management Plan

Figure 1
Pre-development Habitat Map

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Figure 2. Post-development Habitat Map

Legend

Enhancements

- Hedgehog Hole
- Sparrow Terrace
- Bat box
- Deadwood hibernacula
- Starling Box
- 11 - Scattered trees
- g4 - modified grassland
- u1b - developed land. sealed surface
- u1b5 - buildings
- u1b6 - other developed land
- u1d - suburban mosaic of developed/natural surface
- r1a - eutrophic standing waters

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Figure 2
 Post-development Habitat Map

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Appendix 1. Clearing Conditions 14 and 15

Condition Number – 14

A scheme for habitat protection, creation and enhancements shall be submitted to and approved in writing by the Local Planning Authority.

This will take the form of a Biodiversity Enhancement and Management Plan (BEMP) and include a No Net Loss and Net Gain evaluation, working to LBS's methodology and in general accordance with BS42020:2013 to provide a Net Gain on site.

The BEMP will provide:

1) Full details and sizes of each habitat area to be created, how they will be created, 5 years of aftercare and 25 years of management.

2) Green infrastructure, including but not limited to:

- Extensive substrate based biodiverse roofs (including how access for management will be created and maintained)
- Rain gardens These will be provided to maximise local biodiversity and contribute to increased urban permeability. Full details on substrate (including physico-chemical information), species, planting density and abundance will be provided, including cross-sectional views. Species will be native and appropriate for the type of roof / planting proposed, in accordance with Clause 3 (below).

3) Soft landscaping will detail biodiversity enhancement through planting schemes that provide nectar, pollen and fruit resources throughout the seasons, a variety of structural diversity and larval food plants, through no less than 60% native and local species by number and diversity. Substrate, provenance and numbers of all bulbs, seeds and plugs / whips / trees will be detailed, as will aftercare and ongoing management. Spring bulbs, flowering lawns and wildflower hedgerow buffer strips should be included wherever there is space available. Ornamental plants will not include any genera or species on Schedule 9 of the Wildlife and Countryside Act (1981) or the LISI list and should be on the "RHS Plants for Pollinators" lists (or of documented wildlife value), to provide increased resource availability.

4) A timetable of delivery for each habitat, including soft landscaping and green infrastructure

5) A monitoring report shall be provided to the LPA on the 1st November of each year of monitoring (years 1-3 after creation and year 5), which will assess the condition of all habitats created and any and all necessary management or replacement / remediation measures required to deliver the agreed upon Net Gain values.

6) Details of the contingency methods for management and funding, should the monitoring identify changes are required to ensure the habitat(s) are in the appropriate condition to deliver the required biodiversity values Work shall be undertaken in accordance with the approved scheme and thereafter retained in perpetuity.

Reason: To enhance the biodiversity value of the land in accordance with Policy 26 of the Sutton Local Plan 2018.

Condition Number - 15

Prior to rising above the damp proof course of the development hereby permitted, a scheme for wildlife and nesting features shall be submitted to and approved in writing by the Local Planning Authority.

These will include:

1. Hedgehog holes to increase site connectivity (where suitable habitat is adjacent, including boundary and internal fencing)
2. Hibernacula and / or refugia for herpetofauna (where suitable habitat is available on site)
3. Deadwood / stag beetle loggeries (where suitable habitat is available on site)
4. Features on buildings, in accord with the adopted Biodiversity Strategy, such as
 - Multi-chamber swift bricks (preferred) or boxes,
 - Multi-occupancy hirundine nests,
 - Starling boxes,
 - House sparrow terraces,
 - Bat bricks (preferred) or boxes,
5. Other bird boxes or features, as appropriate to the site (including insect boxes / hotels etc.)

The scheme will include full details on: numbers of each feature, type of feature / box / brick, location (plan and elevation views) of each feature, height above ground (if applicable) and nearest external lighting (if likely to have an impact).

Features shall be undertaken in accordance with the approved scheme and thereafter retained in perpetuity.

Reason: To enhance the biodiversity value of the land in accordance with Policy 26 of the Sutton Local Plan 2018.

Appendix 2. Site Photos



Plate 1 Vegetated garden with SuDS system

Plate 2 Vegetated garden with shrub and small fruit tree

Plate 3 Tree at the bottom of the garden

Plate 4 Ornamental pond

Appendix 3. Relevant Legislation

Amphibians

Smooth newt *Lissotriton vulgaris*, palmate newt *L. helveticus*, common frog *Rana temporaria* and common toad *Bufo bufo* are included in Section 9(5) of the Wildlife and Countryside Act 1981 (“the WCA 1981”) which prohibits sale, barter, exchange, transporting for sale and advertising to sell or to buy these species.

Common toad is also a Priority Species under the Natural Environment and Rural Communities Act 2006 (“the NERC Act”).

Great crested newts *Triturus cristatus* (GCN) are protected under WCA 1981 and The Conservation of Habitats and Species (Amendment) (EU Exit) Regulations 2019 (“the Habitats Regulations”), and are a European Protected Species (EPS).

It is illegal to kill, injure, capture, handle or disturb GCN, and the places they use for breeding, resting, shelter and protection are protected from being damaged or destroyed.

GCN is a Priority Species under the NERC Act.

Badger

Badgers *Meles meles* and their setts are protected under the Protection of Badgers Act 1992 (“the PBA 1992”). It is an offence to kill, injure or take a badger from the wild. It is also an offence to destroy, damage or obstruct a currently active badger sett, or to disturb badgers within the sett.

Bats

All species of bat occurring within the UK are included in Schedule 2 of the Habitats Regulations. Under regulation 41, bats are protected from deliberate capture, injury or killing, from deliberate disturbance and from deliberate damage or destruction of a breeding site or resting place (roost).

All UK bats are also included on Schedule 5 of the WCA 1981. However, their protection is limited to certain offences. It is an offence to intentionally or recklessly disturb bats while they are occupying a structure or place used for shelter or protection, or to obstruct access to any such place.

Birds

All nesting birds are protected under the WCA 1981 against destruction of the nest during the bird nesting season, which is generally considered to last between March and August, inclusive.

It is illegal to kill, injure or ‘take’ any wild bird, take or damage the nest of any wild bird whilst in use or being built. The eggs of all wild birds are also protected.

The birds listed in Schedule 1 of the WCA 1981 are further protected all year round for those in Part 1 and during a specified closed season for those listed in Part 2.

In 2020, a re-assessment of Birds of Conservation Concern (BoCC) was published by Eaton *et al.* (2020), which defined rare and threatened bird species on two lists (Red and Amber) describing the level of threat to each species of concern.

“Red” is the highest conservation priority, with species needing urgent action due to either a historical decline in breeding population, severe (>50%) decline in breeding or non-breeding population, or severe decline in breeding range over 50 years or more.

“Amber” is the next most critical group, with species qualifying for this status as a result of either recovery from red list criterion, being classed as rare breeders in the UK, moderate (>25%) decline in breeding or non-breeding population or moderate decline in breeding range over 25 years or more.

These categories are followed by “Green”, indicating that the species are relatively unthreatened.

Invasive non-native species

Certain species of plants and animals that do not naturally occur in the UK have become established in the wild and represent a threat to the natural fauna and flora.

The WCA 1981 is the principal piece of legislation in the UK regarding invasive non-native species. It is an offence under Section 14 (2) to plant or otherwise cause to grow in the wild any species listed on Schedule 9, Part II of the Act. Schedule 9, Part II includes knotweed species *Fallopia* spp., Himalayan balsam *Impatiens glandulifera*, giant hogweed *Heracleum mantegazzianum*, cotoneaster species *Cotoneaster* spp., montbretia *Crocsmia* × *crocsmiiflora* and Rhododendron species *Rhododendron* spp. Section 14 also controls the spread of various animal species.

In accordance with Section 33 and 34 of the Environmental Protection Act 1990, if taken from their place of origin, any plant listed on Schedule 9, Part II of the WCA 1981 and their associated material (e.g. soil and ash) are classed as controlled waste.

Reptiles

All UK reptile species are protected under Schedule 5 of the WCA 1981 against intentional killing or injuring.

Sand lizard *Lacerta agilis* and smooth snake *Coronella austriaca* are awarded further protection under the Habitats Regulations. However, it is considered unlikely that these species are present within the Site or local area, and as such, are not considered further in the report.

Slow worm *Anguis fragilis*, sand lizard, common lizard *Zootoca vivipara*, grass snake *Natrix helvetica* and adder *Vipera berus* are also listed as Priority Species under the NERC Act.

Appendix 4. Ecological Construction Site Best Practice Guidelines

Works Site Best Practice Guidelines

The following best practice guidelines should be undertaken at all works sites:

- Deep excavations should be covered overnight during works;
- Shallow excavations should have a scaffold board or equivalent placed in them overnight to allow any animals to escape, should they fall in;
- Where fuels / oils are required for equipment (e.g. strimmer's) fuel spill kits should be available at all times;
- Refuelling should be undertaken in designated re-fuelling areas, or on plant 'nappies' to catch and contain spillage;
- All chemicals stored securely;
- All lighting should be switched off when not in use and directed away from vegetated areas; and
- Lights should be fitted with hoods or cowls to prevent excessive light spill, and only directed towards areas required for the works.

Appendix 5. Species List per Habitat Type

Table 8. Modified Grassland

Common Name	Scientific Name	DAFOR
Bramble	<i>Rubus fruticosus</i>	O
Broad leaved dock	<i>Rumex obtusifolius</i>	R
Cocksfoot	<i>Dactylis glomerata</i>	F
Common ivy	<i>Hedera helix</i>	F
Common nettle	<i>Urtica dioica</i>	O
Cow parsley	<i>Anthriscus sylvestris</i>	O
Crocus	<i>Crocus sativus</i>	O
Cyclamen	<i>Cyclamen cyprium</i>	R
Dandelion	<i>Taraxacum officinale</i>	F
Doves-foot cranesbill	<i>Geranium molle</i>	A
False oat grass	<i>Arrhenatherum elatius</i>	F
Ground ivy	<i>Glechomia hederacea</i>	F
Hedge bedstraw	<i>Galium album</i>	F
Herb-robert	<i>Geranium robertianum</i>	R
Perennial rye-grass	<i>Lolium perenne</i>	D
Red dead-nettle	<i>Lamium purpureum</i>	R
Ribwort plantain	<i>Plantago lanceolata</i>	O
Snowdrop	<i>Galanthus nivalis</i>	R
Teasel	<i>Dipsacus sativus</i>	O
Yorkshire fog	<i>Holcus lanatus</i>	D

Table 9. Scattered Scrub and Trees

Common Name	<i>Scientific Name</i>
Bramble	<i>Rubus fruticosus</i>
Hazel	<i>Corylus avellana</i>
Pacific yew	<i>Taxus brevifolia</i>
Privet	<i>Privet sp.</i>
Fruit trees	<i>Prunus sp.</i>

Appendix 6. BNG Raw Data

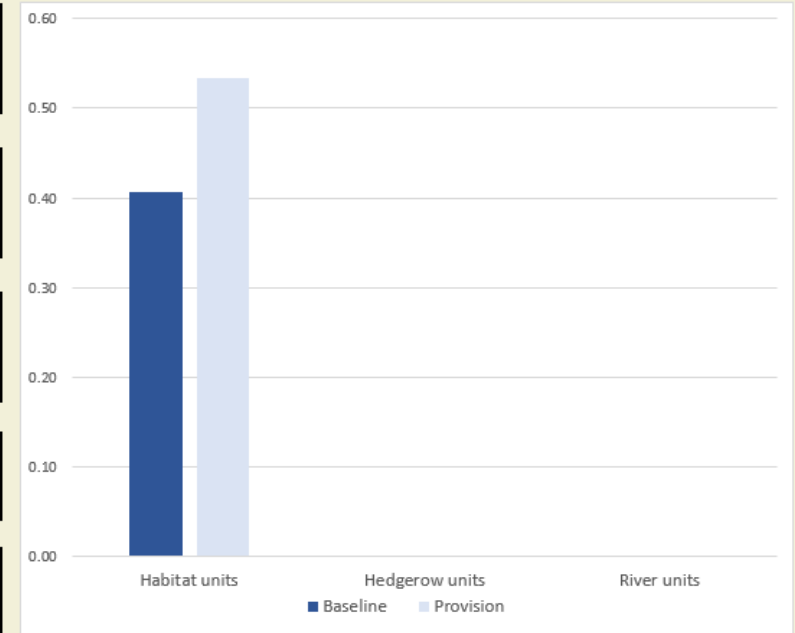
Headline Results

Headline	BNG Targets Met ✓
Next steps	Submit metric to LPA ✓
Trading Rules	Trading Rules Satisfied ✓

Detailed Results

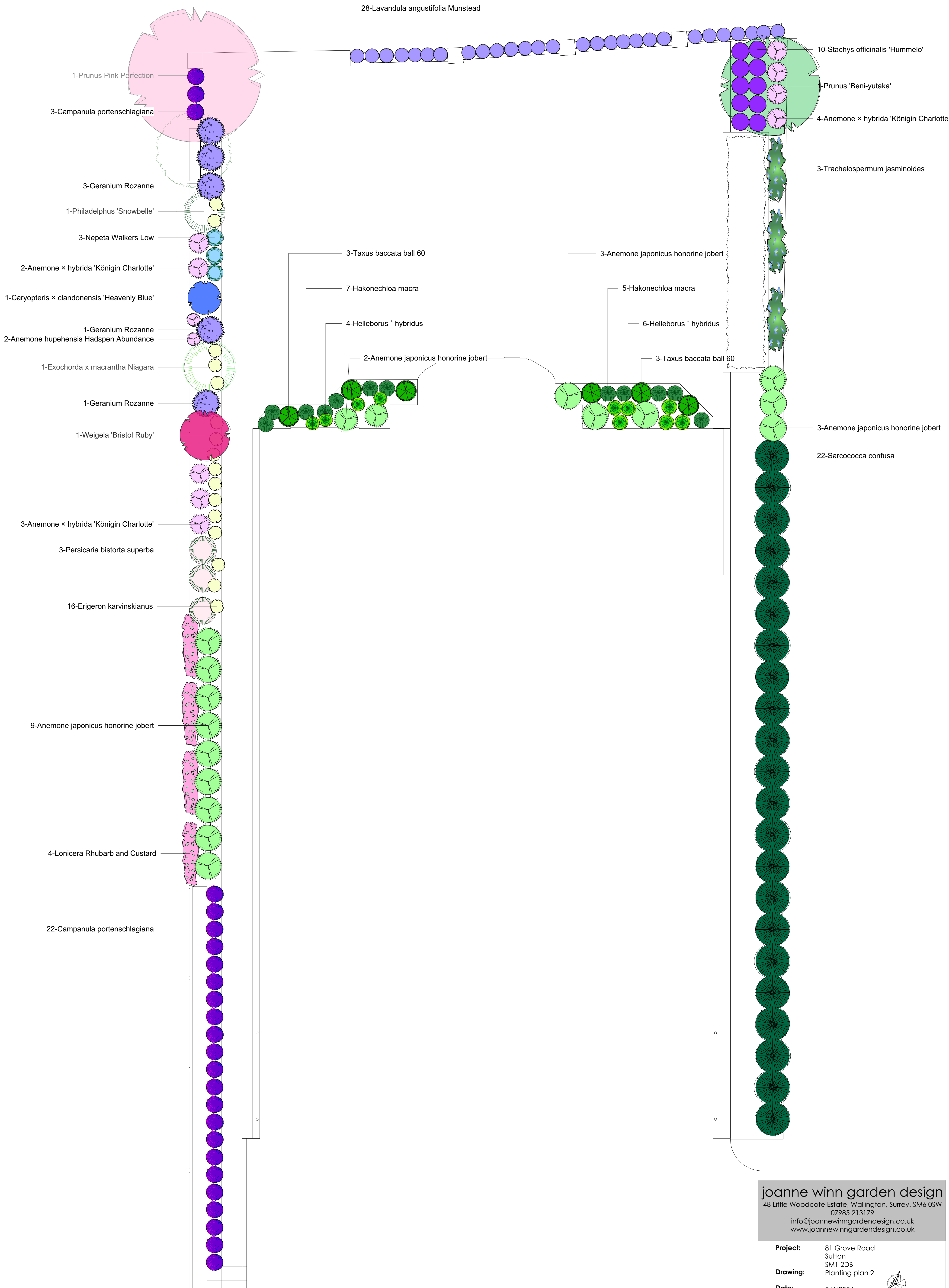
Baseline value	Habitat units	0.4072
	Hedgerow units	Zero Units Baseline
	River units	Zero Units Baseline
Post development value	Habitat units	0.5343
	Hedgerow units	0.0000
	River units	0.0000
Net Gain targets	Habitat units	0.4479 ▲
	Hedgerow units	0.0000
	River units	0.0000
Total net unit change	Habitat units	0.1271 ▲
	Hedgerow units	0.0000
	River units	0.0000
Total net % change	Habitat units	31.22% ✓
	Hedgerow units	% target not appropriate
	River units	% target not appropriate

Chart 1 - Units change by habitat group



Appendix 7. Landscape Layout Plan

Appendix 8. Planting Plan



1-Prunus Pink Perfection

3-Campanula portenschlagiana

3-Geranium Rozanne

1-Philadelphus 'Snowbelle'

3-Nepeta Walkers Low

2-Anemone x hybrida 'Königin Charlotte'

1-Caryopteris x clandonensis 'Heavenly Blue'

1-Geranium Rozanne

2-Anemone hupehensis Hadspen Abundance

1-Exochorda x macrantha Niagara

1-Geranium Rozanne

1-Weigela 'Bristol Ruby'

3-Anemone x hybrida 'Königin Charlotte'

3-Persicaria bistorta superba

16-Erigeron karvinskianus

9-Anemone japonicus honorine jobert

4-Lonicera Rhubarb and Custard

22-Campanula portenschlagiana

28-Lavandula angustifolia Munstead

10-Stachys officinalis 'Hummelo'

1-Prunus 'Beni-yutaka'

4-Anemone x hybrida 'Königin Charlotte'

3-Trachelospermum jasminoides

3-Taxus baccata ball 60

7-Hakonechloa macra

4-Helleborus ' hybridus

2-Anemone japonicus honorine jobert

3-Anemone japonicus honorine jobert

5-Hakonechloa macra

6-Helleborus ' hybridus

3-Taxus baccata ball 60

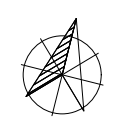
3-Anemone japonicus honorine jobert

22-Sarcococca confusa

joanne winn garden design

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Project: 81 Grove Road
Sutton
SM1 2DB
Drawing: Planting plan 2
Date: 2/4/2024
Scale: 1:100 @ A1



Do not scale from drawing
All measurements and levels to
be checked on site prior to
works commencing. Any
discrepancies to be reported to
designer

Appendix 9. Plant Schedule



Plant schedule

81 Grove Road, Sutton

Latin Name	Quantity	Size	Form
Anemone × hybrida 'Königin Charlotte'	9	2 litre	
Anemone hupehensis Hadspen Abundance	2	2 litre	
Anemone japonicus honorine jobert	17	2 litre	
Campanula portenschlagiana	25	2 litre	
Caryopteris × clandonensis 'Heavenly Blue'	1	5 litre	
Erigeron karvinskianus	16	2 litre	
Exochorda x macrantha Niagara	1	5 litre	
Geranium Rozanne	5	2 litre	
Hakonechloa macra	12	2 litre	
Helleborus hybridus	10	2 litre	
Lavandula angustifolia Munstead	28	2 litre	
Lonicera Rhubarb and Custard	4	5 litre	
Nepeta Walkers Low	3	2 litre	
Persicaria bistorta superba	3	2 litre	
Philadelphus 'Snowbelle'	1	5 litre	
Prunus 'Beni-yutaka'	1	12/14 cm	standard
Prunus Pink Perfection	1	12/14 cm	standard
Sarcococca confusa	22	5 litre	
Stachys officinalis 'Hummelo'	10	2 litre	
Taxus baccata ball 60	6	60 cm	ball
Trachelospermum jasminoides	3	5 litre	
Weigela 'Bristol Ruby'	1	5 litre	

Appendix 10. Plant Maintenance Schedule.



Plant schedule

81 Grove Road, Sutton

Item	Spring	Summer	Autumn	Winter
Anemone x hybrida 'Königin Charlotte'	Apply 5 - 7 cm mulch.		Cut back Stems when flowering is over	
Anemone hupehensis Hadspen Abundance	Apply 5 - 7 cm mulch.		Cut back Stems when flowering is over	
Anemone japonicus honorine jobert	Apply 5 - 7 cm mulch.		Cut back Stems when flowering is over	
Campanula portenschlagiana			Cut back after flowering	
Caryopteris x clandonensis 'Heavenly Blue@	Prune all of the flowered stems back hard to the permanent framework. Apply 5 - 7 cm mulch.		Apply a slow-release balanced fertiliser and a mulch of well-rotted garden compost around the base of the plant	
Erigeron karvinskianus			Trim back lanky stems	
Exochorda x macrantha Niagara	Apply a slow-release balanced fertiliser and a mulch of well-rotted garden compost around the base of the plant			
Geranium Rozanne		Cut back once flowers have faded to encourage fresh new growth and a second flush of flowers	Cut back once flowering is over in late autumn	
Hakonechloa macra	Apply a light mulch (3cm) of well-rotted garden compost after cutting back old foliage and before new growth emerges			
Helleborus hybridus	Provide a top-dressing of general fertiliser		Cut back the stalks after the flowers have faded	Remove old leaves
Lavandula angustifolia Munstead	Carefully trim back in April, taking care not to cut into old wood.		Once established, trim back lanky stems after flowering and remove up to a third of the oldest stems	
Lonicera Rhubarb and Custard	Apply a generous 5-7cm (2-3in) mulch of well-rotted compost or manure around the base of the plant, avoiding the immediate crown.	Tie in to wires or trellis		
Nepeta Walkers Low	Lift and divide large clumps in spring, replanting divided specimens with lots of well-rotted organic matter.	Cut back once flowers have faded to encourage fresh new growth and a second flush of flowers		Cut back after it has finished flowering,
Persicaria bistorta superba	Lift and divide large clumps in spring, replanting divided specimens with lots of well-rotted organic matter.	Dead head as flowers fade to encourage fresh new growth	Cut back after flowering	
Philadelphus 'Snowbelle'	Mulch with a thick layer of compost or well rotted manure		Prune in late summer, removing one in four stems to ground	
Prunus 'Beni-yutaka'	Mulch with a thick layer of compost or well rotted manure avoiding stem		Check ties and stakes.	
Prunus Pink Perfection	Mulch with a thick layer of compost or well rotted manure avoiding stem		Check ties and stakes.	
Sarcococca confusa	Lightly trim shoots after flowering. Apply a generous 5-7cm (2-3in) mulch of well-rotted compost around the base of the plant			
Stachys officinalis 'Hummelo'		Dead head as flowers fade to encourage fresh new growth	Cut back after flowering	
Taxus baccata ball	Mulch with a thick layer of compost or well rotted manure	Trim to shape late summer /early autumn	Trim to shape late summer /early autumn	

Trachelospermum jasminoides

Mulch with a thick layer of compost or well rotted manure

Tie in to wires or trellis

Trim back to fit available space

Weigela 'Bristol Ruby'

Mulch with a thick layer of compost or well rotted manure

Once established, in midsummer after flowering prune back a few of the older stems to base and cut back the shoots to a strong bud below the spent flowers

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